

Work Order ID 51773

September 3, 2009 7:38:46 AM



Page 1

Item ID: D2580-1

Accept



Setup Start



Revision ID: D

Stop



Item Name: 205 Skidtube bent detail

Start Date: 9/03/09 Start Qty: 2.00



Cust Item ID:

Required Date: 9/08/09 Req'd Qty: 2.00

Customer:

Reference:

Approvals:

Process Plan:

W

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2580	Rev D								

100

0.00



HandFinish

Memo

0.00

Hand Finishing

1- Inspect mat'l D2500-1-190 for damage.

2-Chemical Conversion Coat as per QSI 005 4.1

2 0 - ANM 9-10-20

101

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

DD

9-10-26

(2)

2 9/10/26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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NOTE: Date & initial all entries

Work Order ID 51773

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Page 2

Item ID: D2580-1

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Setup Start



Revision ID: D

Stop



Item Name: 205 Skidtube bent detail

Start Date: 9/03/09 Start Qty: 2.00



Cust Item ID:

Required Date: 9/08/09 Req'd Qty: 2.00



Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

110

0.00



Skidtubes

Memo

0.00

Skidtubes

1-Drill pilot holes using drill jig DT 8149 (Do not use cutting fluid)

2-Open holes to 0.500" as per Dwg D2580 without cutting fluid

3-Deburr and blow out all chips from inside of tube

4-Bond web in place per QSI 015.

□□

A/R Sikaflex-291 batch: 112391 □□□

Sikaflex expire date: 10-02-20

Start time: 3:00 bond for 12hrs

2 - - AWM 5-10-26

130

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

2 BE 09-10-28

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[illegible]

September 3, 2009 7:38:47 AM

[illegible]

[illegible]

THE UNIVERSITY OF CHICAGO

Cust Item ID:

Customer:

[REDACTED]

[illegible]

**Insp.
Stamp**

0.00

[illegible]

0.00

0.00

THE UNIVERSITY OF CHICAGO

0.00

mf 09-10-28

W/O:		WORK ORDER CHANGES					
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Picklist Print

September 3, 2009 7:38:46 AM

Page 1 / 1

Work Order ID: 51773



Parent Item: D2580-1RevD



Parent Item Name: 205 Skidtube bent detail

Start Date: 9/03/09

Required Date: 9/08/09

Comments:

Start Qty: 2.00

Required Qty: 2.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2500-1-190RevU/R 		Manufactured	No			100	Each	0.0000	2.0000			
Ext'n - 'I' Beam Tube 4"												
D2596RevD 		Manufactured	No			110	Each	18.0000	2.0000			
Web, 205 Skidtube												

SA166 (2)
AWM 9-10-20

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

LG

51528

18

18

(2)
AWM 9-10-26

W/O:		WORK ORDER CHANGES					
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NOTE: Date & initial all entries



DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D2580	REV. D SHEET 1 OF 3
DATE 07.02.27		TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	
D	07.02.27	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183	

RELEASED
07.06.28 *[Signature]*

QTY -041	QTY -045	Part Number	Description
X		D2580-041	SKIDTUBE ASSEMBLY
	X	D2580-045	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
1	1	D2576-3	STEP
20	24	D2579	CROSS BOLT SPACER
16	16	D2594-1	PLUG
16	16	D2594-3	O-RING
1	1	D2596	205 WEB
1	1	D2855	AFT CAP
1	1	D3564-5	WEARSHOE
1	1	D3564-9	WEARSHOE
1	1	D3564-11	WEARSHOE
1	1	D3564-13	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1	1	D3566-13	GASKET
50	50	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
50	50	AN3C4A	BOLT
2	2	AN3-5A	BOLT
50	50	AN960C10L	WASHER
2	2	AN960JD10L	WASHER

*W/D
SP773*

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:
SEE NOTES ON
PAGE 2 FOR D2580-041 AND
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

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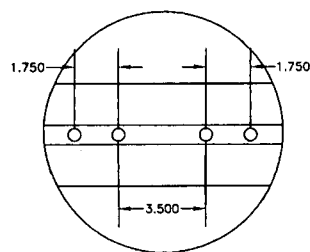
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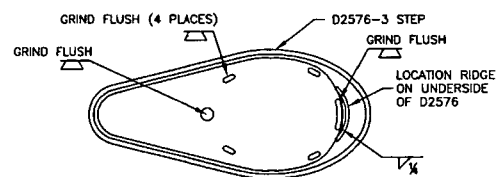
NOTE: Date & initial all entries

DETAIL A
SCALE 5:24



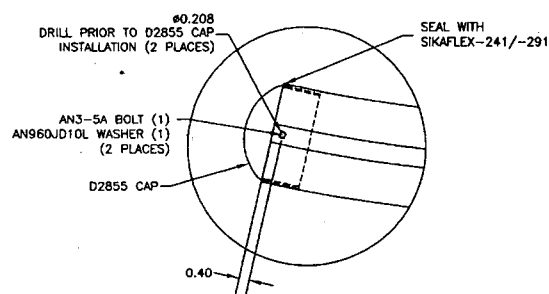
ELLS OM

DETAIL B
SCALE 5:24

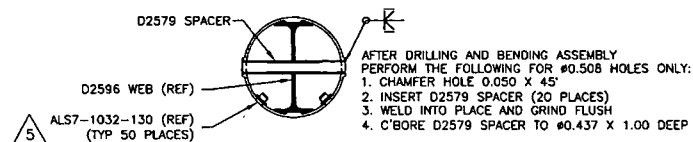


RELEASED
07-06-28

DETAIL C
SCALE 5:24



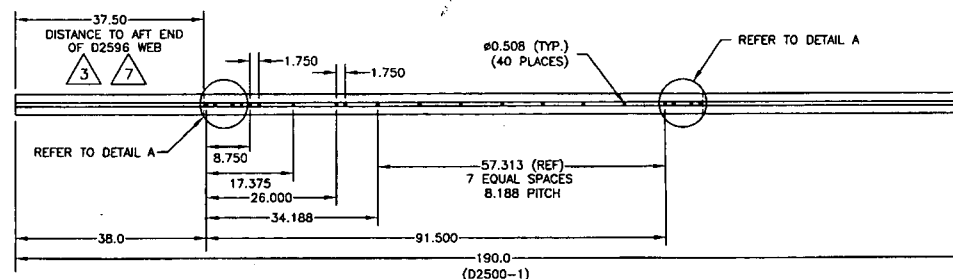
SECTION D-D
SCALE 5:24



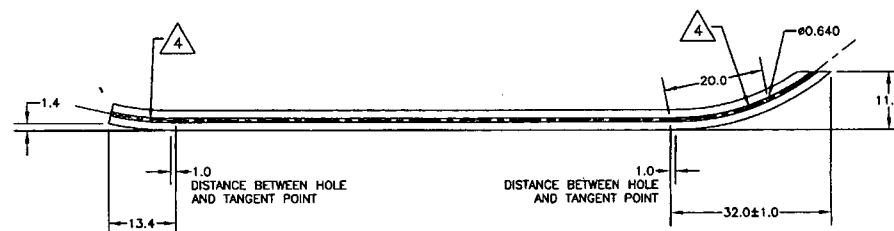
D2580-041 NOTES

- i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

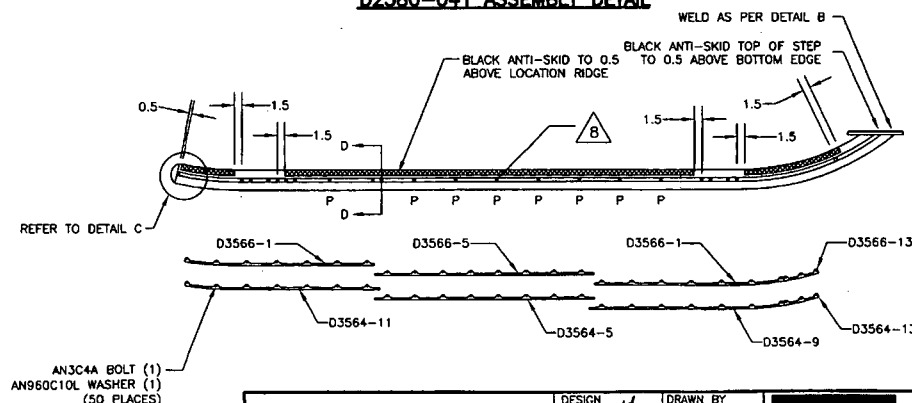
D2580-1 DRILLING DETAIL



D2580-1 BENDING AND CUTTING DETAIL



D2580-041 ASSEMBLY DETAIL



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DESIGN
CHECKED
DATE
07.02.27

DRAWN BY
APPROVED
DATE

DART DART AEROSPACE LTD.
HAMPSHIRE, ONTARIO, CANADA
DRAWING NO.
D2580
TITLE
205 SKIDTUBE ASSEMBLY
REV. D
SHEET 2 OF 3
SCALE
1:24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

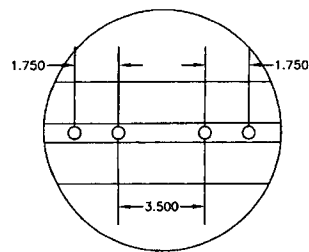
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ΣΤΕΦΑΝΟΣ



RELEASED
07 Dec 28

Diagram illustrating the grinding locations and steps for the propeller hub:

- GRIND FLUSH (4 PLACES)
- GRIND FLUSH
- D2576-3 STEP
- GRIND FLUSH
- LOCATION RIDGE ON UNDERSIDE OF D2576
- $\frac{1}{4}$

Technical drawing of a circular component, likely a base plate or cover, showing mounting details. The drawing includes the following annotations:

- DRILL PRIOR TO D2855 CAP INSTALLATION (2 PLACES)**: Points to two small circles indicating pre-drill locations.
- SEAL WITH SIKAFLEX-241/-291**: Points to the outer edge of the component.
- AN3-5A BOLT (1)** and **AN960JD10L WASHER (1) (2 PLACES)**: Points to the two mounting holes.
- D2855 CAP**: Points to the central circular feature.
- SEE NOTE ii)**: Points to the right side of the component.
- 0.40**: Dimension indicating the radius of the central feature.

D2579 SPACER

WEB (REF)

-130 (REF)

20 PLACES

AFTER PERFOR

1. CH
2. INS
3. WE
4. C'E

i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

ii) IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE
WITH THE SPACER AT THIS LOCATION

[illegible]

Technical drawing of a curved section of a pipe. The drawing shows a horizontal pipe with a curved section on the right. Dimensions and callouts include:

- Overall length: 51.340
- Distance from left end to start of curve: 5.985
- Reference dimension: 5.338 (REF)
- Distance from end of curve to right end: 39.580
- Radius of curve: $\phi 0.508$ (8 PLACES)
- Distance from end of curve to right end (alternative): 5.915
- Distance from end of curve to right end (alternative): 20.0
- Distance from end of curve to right end (alternative): $\phi 0.640$
- Distance between hole and tangent point (left): 1.0
- Distance between hole and tangent point (right): 1.0
- Distance from left end to start of curve (alternative): 1.4
- Distance from left end to start of curve (alternative): 13.4
- Distance from end of curve to right end (alternative): 32.0 \pm 1.0
- Callout 4: Points to the left end of the pipe and the curved section.

WELD AS PER DETAIL F

BLACK ANTI-SKID TO 0.5 ABOVE LOCATION RIDGE

BLACK ANTI-SKID TOP OF STEP TO 0.5 ABOVE BOTTOM EDGE

0.5

1.5

1.5

H

NO C'BORE NO PLUG

REFER TO DETAIL G

P

H

P

P

P

P

P

P

P

NO C'BORE NO PLUG

D3566-1

D3566-5

D3566-1

D3566-13

D3564-11

D3564-5

D3564-9


AN3C4A BOLT (1)

AN960C10L WASHER (1)

50 PLACES

DESIGN	DRAWN BY

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PH
CHECKED 
DATE 07.02.27

APPROVED *[Signature]*

DRAWING NO.	02580
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REV. D
SHEET 3 OF 3

TITLE
205 SKIDTUBE ASSEMBLY

SCALE

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